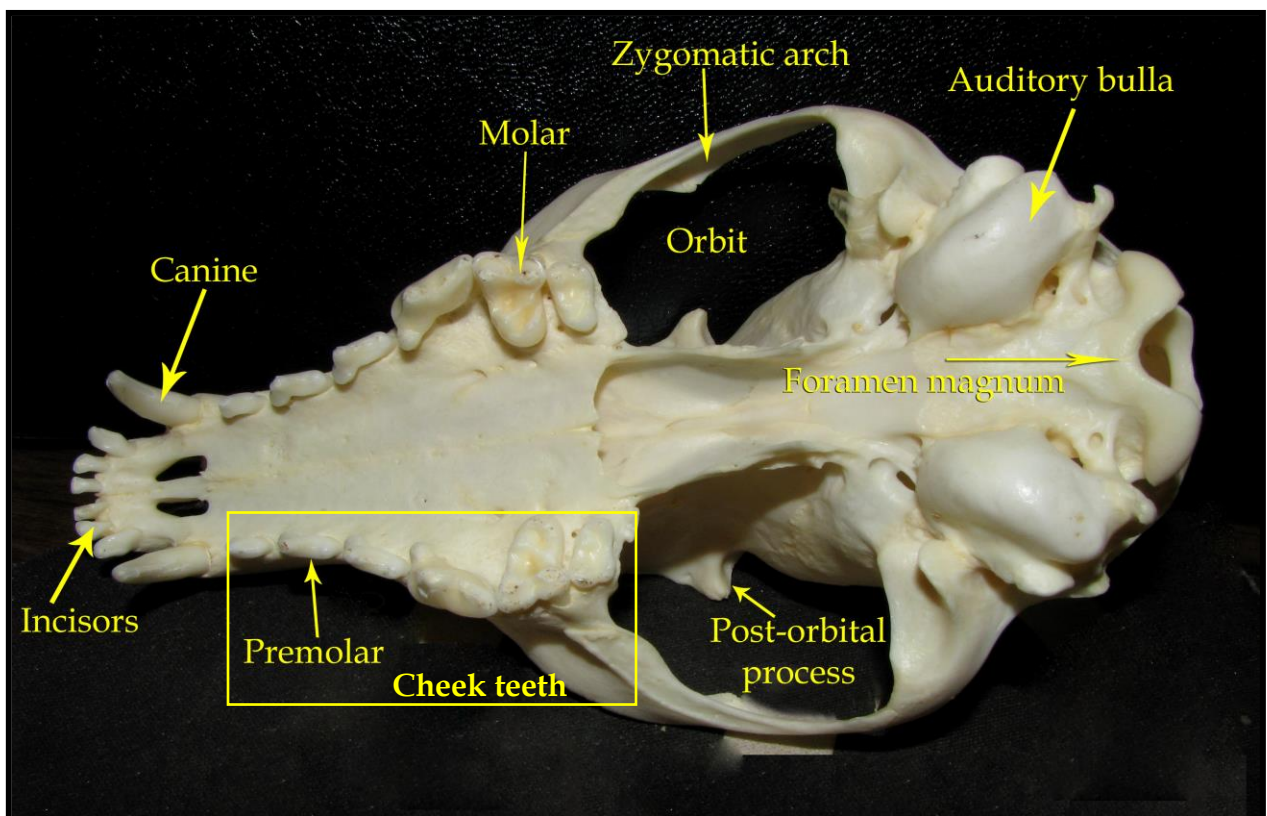


# Simplified Key to Furbearer Skulls

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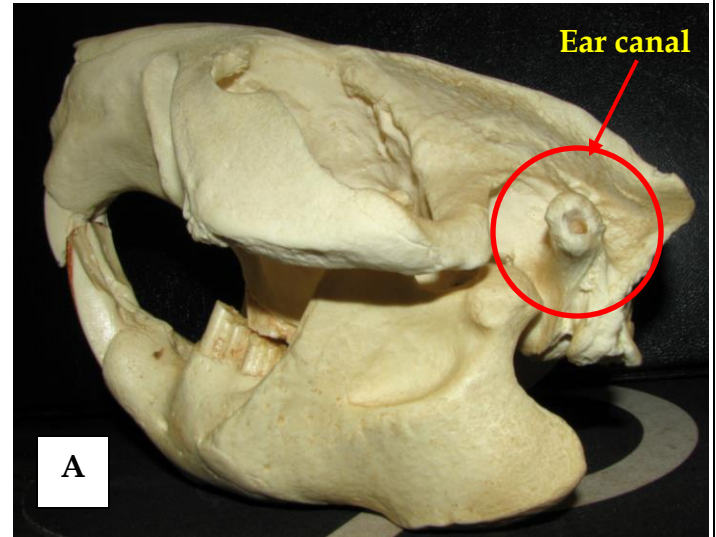
1. Large incisors, no canines present
  - a. **Go to Section 1: Rodents**
2. Combination of incisors and canines
  - a. 5 incisors/side on top; 4 incisors per side on bottom
    - i. **Opossum**
  - b. Less than 4 incisors per side on top and bottom
    - i. Upper molar significantly smaller than premolars; premolars 2 per side on top
      1. **Bobcat**
    - ii. Upper molar(s) large and robust; premolars not 2 per side on top
      1. Post-orbital process in front of skull midpoint; Molars 1/2 or 2/2
        - a. 6 upper cheek teeth with a total of 40 teeth
          - i. **Raccoon**
        - b. 4-5 upper cheek teeth with a total of 32-38 teeth
          - i. **Go to Section 2: Mustelids**
      2. Post-orbital process at or near skull midpoint; Molars 2/3
        - a. **Go to Section 3: Canids**



## Section 1: Rodents

The Order Rodentia comprises the largest and most diverse assortment of living mammals. It contains over 1600 species in about 30 different families. The Order Rodentia is characterized by having a single pair of ever-growing incisors in the upper and lower jaws and a broad diastema (space between the incisors and cheek teeth).

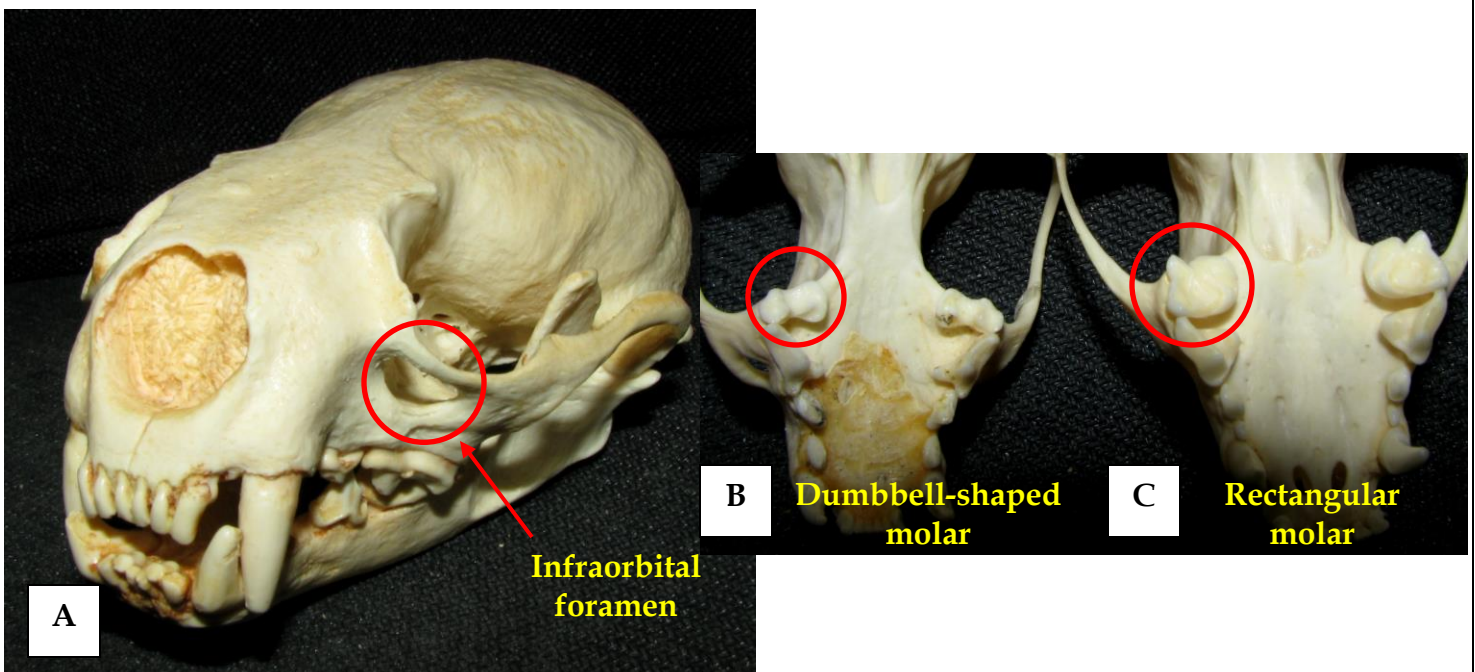
1. Ear canals long and pointed upward (Figure A)
  - a. **Beaver**
2. Ear canals short and not pointed upward
  - a. Length of upper row of teeth (excluding incisors) more than 23mm
    - i. **Nutria**
  - b. Length of upper row of teeth (excluding incisors) less than 23mm
    - i. **Muskrat**



## Section 2: Mustelids

Mustelids are a Family in the Order Carnivora. Carnivores first appeared in the fossil record 60 million years ago. The Family Mustelidae contains weasels, skunks and allies. Mustelids have a special pair of teeth known as the carnassials. Carnassial teeth are a pair of bladelike teeth (last upper molar and first lower molar) that exhibit a shearing action. This set of teeth is found in most carnivores, but those on Mustelids are extremely well-developed.

1. Premolars 4/3; post-orbital process well developed; infraorbital foramen greater than 8mm in diameter (Figure A)
  - a. **River otter**
2. Premolars 2/3, 3/3 or 4/4; post-orbital process lacking to moderately developed; infraorbital foramen less than 8mm in diameter
  - a. 5 upper cheek teeth; Premolars 4/4
    - i. **Fisher**
  - b. 4 upper cheek teeth; Premolars 2/3 or 3/3
    - i. Upper molar dumbbell-shaped (Figure B); auditory bulla (capsule over ear) prominent and elongated
      1. Skull over 58mm long
        - a. **Mink**
      2. Skull 40-58mm long
        - a. **Long-tailed weasel**
    - ii. Upper molar rectangular-shaped (Figure C) ; auditory bulla flat and not elongated
      1. **Striped skunk**



### Section 3: Canids

Canids are in the Order Carnivora. The Canidae family contains wolves, coyotes and foxes. Worldwide, there are about 34 species of Canids, 8 of which occur in North America.

1. Greatest length of skull more than 200mm
  - a. **Coyote**
2. Greatest length of skull less than 200mm
  - a. Ridges on top of skull form a V-shape (Figure A)
    - i. **Red fox**
  - b. Ridges on top of skull form a U-shape (Figure B)
    - i. **Gray fox**





## Simplified Key to Furbearer Skulls Index

- **Anterior-** front of skull or lower jaw
- **Auditory bulla-** bony capsule enclosing middle ear
- **Canine-** elongate, unicuspid tooth
- **Carnassial teeth-** pair of bladelike teeth (last upper molar and first lower molar) that exhibit a shearing action
- **Cheek teeth-** combination of premolars and molars
- **Dental formula-** numerical representation of the number of each kind of tooth on one side of the upper and one side of the lower jaw
- **Diastema-** a gap or space in the jaw between teeth; used most often to denote gap between incisors and cheek teeth in rodents
- **Foramen magnum-** large opening at the back of a skull which the spinal cord goes through
- **Incisors-** anterior-most teeth (front teeth) of mammals
- **Infraorbital foramen-** opening below orbit (eye socket)
- **Molar-** teeth located after premolars
- **Orbit-** eye socket
- **Posterior-** back of skull or lower jaw
- **Post-orbital process-** bony projection
- **Premolar-** teeth situated between canines and molars
- **Rostrum-** distance from end of nostrils to orbit
- **Zygomatic arch-** arch of bone protecting the orbit (eye socket)

